

UPON SOME ABNORMAL CONDITIONS WHICH  
MAY COMPLICATE THE OPERATION OF  
COLOTOMY.<sup>1</sup>

By WILLIAM THOMSON, M.A., F.R.C.S.

OF DUBLIN.

SURGEON TO THE RICHMOND HOSPITAL.

THE operation of colotomy has not yet been practiced often enough to make us acquainted with all its possible difficulties; and it is for this reason I wish to make a few observations upon the subject. In August, 1884, I was asked to see, in consultation, a lady who was the subject of malignant disease of the rectum, and who had been suffering from complete obstruction for about a fortnight. She was very much exhausted, the abdomen was greatly distended, and although she occasionally was able to get rid of some flatus, the total amount was so small that her distress was in no way relieved. I made a prolonged attempt to pass a urethral bougie through the minute central canal which I could feel in the nodulated mass in the rectum, but without success. The effort had already been made on a previous day with a like result; and as the symptoms were urgent I recommended that the colon should be opened on the left side. This was accordingly undertaken August 15, when I had the assistance of the late Dr. Benjamin M'Dowel, Mr. Thornley Stoker, and Dr. Kavanagh, of Kingstown. The incision was made midway between the last rib and the crest of the ilium, the centre being about half an inch behind the central point of the iliac crest, as recommended by Allingham. The parts were very carefully divided to the full extent of the wound in the skin, and finally the transversalis fascia was cut through. We were now in a position to search for the gut, and I looked for it in its usual position at the posterior extremity of the wound. Instead of finding, however, a large distended colon, there was a tube about the size of a small intestine. I examined it carefully.

<sup>1</sup>Read in the Surgical Section of the Academy of Medicine in Ireland, May 20, 1887.

It was somewhat thicker walled; but it did not present any of the longitudinal bands characteristic of the colon; neither had it the greenish color, nor did it contain any material that could be recognized as fecal. I next explored its relation to the kidney, and it appeared to lie in close proximity to the lower part of that gland. The tube was not in any degree tense; but what it was that had got into this place none of us could tell. Finally I punctured it once or twice with a needle, but nothing escaped. In front of it lay a larger gut, to which I now turned more particular attention. It did not present the greenish color upon which so much stress is laid as enabling us to identify the colon; neither were the longitudinal bands visible; but a deeper examination of its attachments showed that it was connected to the posterior abdominal structures in the usual position of the colon, and we determined upon opening it. I rolled the gut so as to get at its posterior surface uncovered by peritoneum, but I found that this membrane almost enveloped the intestine. In my efforts to get at the back of the colon I opened into the abdominal cavity, but I sewed up the rent with carbolised catgut and it never gave me any trouble.

I first transfixed the sides of the wound and the colon with a large needle in two places, and the intestine was then opened so as to allow the loops to be drawn out. These were divided, and the opening was secured to the external wound by four silk sutures. Catgut was used to secure the intervening portions of the edge of the intestine to the skin. A copious discharge of feces followed. The dressings consisted of iodoform and pads of wood wool; The wound healed without any difficulty. The patient was able to go to the drawingroom in a fortnight, and to go out soon afterwards. She remained in fairly good health, and did not suffer any special inconvenience from the opening in the colon. Death followed in 21 months, rather suddenly, and was believed, I understand, not to be the direct result of the disease in her rectum.

Now, the point of greatest interest in this case is the position of the colon. The universal teaching of the books that I have consulted is that the colon is to be found at the most posterior point, and it was owing to this that we prolonged our

examination of the strange tube which none of us could identify, and which perplexed us so much. Some time ago, with a view to solve the difficulty, I made an inspection of a frozen transverse section of the body, which was made by Professor Cunningham, of Trinity College, and a drawing of which has been kindly made for me by Dr. Arthur Thompson, Professor of Anatomy at Oxford. The section passes through the third lumbar vertebra. You will observe on examining it that the colon lies in front of the quadratus lumborum muscle, covering the greater part of that structure, but that on the remainder of this surface, and lying between the colon and the line of incision, is a section of intestine, which, from its internal structure, is to be recognized as the jejunum. In fact, the colon is hidden in a somewhat quadrilateral space, the boundaries of which are, quadratus lumborum posteriorly; intestine externally; intestine anteriorly; and psoas internally. If an incision for colotomy were made in this case, we should come upon the jejunum and not upon the colon at all. My first impression was that I had solved the problem, and that what I saw and punctured was in reality a piece of small intestine; but it was pointed out to me that I must have opened the parietal peritoneum to get at it; and with the exception of the small opening which I accidentally made subsequently, I was not conscious of having done so. I could not have done so, if this tube was really small intestine, without observing it, unless, indeed, the parietal peritoneum was adherent to the tube.

But a consideration of this section does suggest a difficulty which might occur, and for which we ought to be prepared. The reflection of the peritoneum in the section under examination is normal—that is to say, a portion of the posterior surface of the colon is uncovered by peritoneum. But occasionally there are seen cases in which this arrangement is not present, or in which there is, at all events, such a laxity of the peritoneal ligaments as would permit of displacement of the colon forwards. In such cases the colon, distended with flatus or solid material, could extend forwards past the jejunum, which lies on its outer side, and overlapping that portion of the intestine, appear at the

bottom of the wound second in order from the quadratus lumborum, and not first.

The subject obtains additional interest and importance from the observations of Mr. Treves, in his recent lecture on "The Anatomy of the Intestinal Canal and Peritoneum in Man" (*Brit. Med. Jour.*, March 21, 1885). In the course of his lecture on the ascending and descending colon, he remarks: "Considerable importance attaches, from a surgical point of view, to the frequency with which a meso-colon may be anticipated in connection with the vertical parts of the large intestine. With this anatomical circumstance the operation of lumbar colotomy is very intimately concerned. The usual statement made in surgical text-books upon this subject is to the effect that a mesocolon is more often found upon the right side of the body than upon the left, and this statement is used as one argument in support of left lumbar colotomy. I made a careful examination of the peritoneal investments of these parts of the colon in the 100 subjects dissected, with the following result: In 52 bodies (that is, in about one-half) there was neither an ascending nor a descending mesocolon. In 22 there was a descending mesocolon, but no trace of a corresponding fold on the other side. In 14 subjects there was a mesocolon to both the ascending and descending segments of the bowel; while in the remaining 12 bodies there was an ascending mesocolon, but no corresponding fold on the left side. It follows, therefore, that in performing lumbar colotomy a mesocolon may be expected upon the left side in 36 per cent of all cases, and on the right in 26 per cent. From the standpoint of development and comparative anatomy it would certainly be expected that a descending mesocolon would be much more frequently met with than an ascending mesocolon. In the lower animals the former membrane is always extensive and conspicuous. It is well marked in all species of monkey, and even in the anthropoid apes. It is the remains of the primary vertical fold of peritoneum, whereas the ascending mesocolon is a secondary production—a fold acquired by a certain phase in the development of the bowel. The line of attachment of the left mesocolon is usually along the outer border of the kidney, and is vertical. The attachment, therefore, has been moved some

distance from the middle line, along which it would have originally extended. The line of attachment of the ascending mesocolon is, as a rule, less vertical, and is found crossing the lower end of the kidney from right to left, and then ascending along the inner margin of the gland. In like manner, when these folds are entirely absent, the left colon will be found to be adherent to the parietes along the outer border of the kidney, while the right will be fixed a little obliquely to the anterior surface of the lower end of the corresponding gland, and then along its inner margin. The ascending mesocolon will vary in breadth from one inch to two inches, while the fold on the left side will vary between one and three inches."

I have refrained from discussing the general aspects of this operation, now so frequently successful when undertaken at the proper time; but I wish to direct attention to conditions which may hamper us greatly in the performance of it. Recognition of the colon by its position in the wound, its structure or its color, cannot be relied upon as invariably true. In this case none of these gave us any aid. Allingham, who has done between 30 and 40 colotomies, says: "In most of my cases one of the longitudinal bands was clearly observed," which clearly implies that this indication was not always apparent. Amussat found help in the ascending and descending movement of the small intestines, corresponding to respiration, the lumbar colon not participating. All these suggestions show that it is not always a simple matter to find the colon; and I have added a difficulty to which, so far as I know, attention has not been before directed. It will be found, however, that in the majority of cases some of the guiding marks are present; and I may add to these the indication which will be most persistent—namely, the position of the attached surface of the colon along the outer margin of the kidney.

The second patient whom I operated upon was an old man over seventy, who consulted me in August, 1885, for chronic diarrhoea. He had lost much in weight, and nothing had helped to stay the discharge. I examined his rectum carefully, but could not reach any obstructing mass. An examination through the abdominal walls revealed some fulness in the region of the sigmoid flexure, and above it, and I suspected that

this was the source of the mischief. He was not, however, suffering any pain; there were no indications of fæcal lodgment, and I prescribed for him, telling him to return in a few weeks. In September there was no improvement, and on the 24th of that month I was sent for to see him. He was confined to bed, the abdomen was distended, fæcal discharge had stopped for a day or two, and there was frequent vomiting, with a loaded tongue and a rapid pulse. The fulness in the sigmoid region was now very marked, and, in consultation with Mr. Thornley Stoker, it was agreed that the colon should be opened. This I accordingly did next morning, with the assistance of Mr. Stoker, and Mr. (now Sir) W. Stokes. There was some little difficulty about recognizing the colon at first, but it was first recognized by its containing a small scybalous mass, and then by its longitudinal bands. The bowel was secured as in the last case, and opened. There was, however, no escape of fæces, only of a little dark colored fluid. The wound was dressed with iodoform and cotton wool, and it healed up rapidly. The patient's condition was improved, the vomiting and flatus disappeared, and the only thing he complained of was pain in the sigmoid region, and weakness. The morning dressing, however, continued to show nothing more than a slight brown stain, and this absence of copious discharge assisted in the rapid healing of the wound, about which there was never any difficulty. I waited on patiently for some fæcal evacuation, but it only appeared in full quantity on the seventeenth day after the operation, and it afterwards came regularly. On the nineteenth day I told the patient he might leave bed on the next. When I called, however, he said he felt disinclined to get up for a day longer. That day, however, never came, for he gradually sank and died on the twenty-third day after the operation.

The only point of interest in this case is the long delay which occurred before the evacuation through the opening in the colon. It is not rare to find cases in which a few days do elapse; but so far as I have been able to consult reported cases, I have not found one in which so long a period intervened as in this instance. Whether the cause was atony of

the bowel, or some pressure exercised by the growth, I cannot say.

I was not anxious to be active in treatment, seeing how well the patient was during the time. But in any case it is well to record the fact I have here stated, as one of the unusual conditions which may attend the operation of opening the colon.

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## MALIGNANT TUMORS OF THE UPPER JAW.

By WM. TOD HELMUTH, M.D.,

OF NEW YORK.

THE sarcomas which affect the jaws, especially the upper, form an interesting study both from a clinical and pathological standpoint. The prolongation of the Schneiderian membrane into the antrum, introduces an element into the centre of the superior maxillary, which is not found elsewhere in the skeleton, and thus renders it obnoxious to one or other of the many forms of carcinoma, that is, if we accept the theory regarding the epithelial origin of cancer.

The old primary malignant bone growths are of the connective tissue, and are sarcomas, as all the elements which enter into the formation of bone, even to the endothelial lining of the vessels belong to the connective tissue. In my opinion, it is at present impossible to correctly classify sarcomas, and if the microscopists be allowed to continue, their divisions, subdivisions and re-subdivisions of these tumors, and if it be true that every organ in the body has a sarcoma belonging to itself arising from different causes, and that "in order to discover the relative importance of these causes, the tumors of each tissue and organ must be studied separately,"<sup>1</sup> and if each pathologist is allowed to make his own arrangement, it will be perceived what a terribly conglomerate and labyrinthic affair will such an arrangement ultimately become, especially when it is remembered, that in the natural history of all tumors, one variety

<sup>1</sup>Sarcoma and Carcinoma. By Henry Trentham Butlin, F.R.C.S., p. 11.